COMPARING TREATMENT TECHNIQUES: A CAUTIONARY NOTE

It is inevitable that extensive research in applied behavior analysis will generate a variety of solutions for many of the problems facing society today. A natural question that arises when two or more techniques have been successfully applied to the same problem area is which of these techniques is most effective. Although this question can appear deceptively simple, it is in fact an extremely complex one to answer because many factors such as cost, treatment generality, and user preference enter into the final decision.

However, another factor that has received little recognition is the delineation of the important parameters affecting the efficacy of each individual treatment to be compared. Unless we know how to make each treatment optimally effective it will be pointless in many cases to compare techniques.

Clearly if this factor is ignored, the variables that affect one treatment in a comparison (treatment A) might be close to optimal while those affecting another treatment (treatment B) might be far less than optimal. Hence, if treatment A proves more effective than treatment B we might erroneously conclude that treatment A is superior to treatment B, when in fact treatment B might be potentially superior to treatment A. The conclusions reached could then produce the undesirable consequence of discouraging research on the treatment technique judged to be less effective.

This is not a new issue in applied behavior analysis. Sidman (1960) raised the same argument when objecting to the types of techniques used by comparative psychologists to determine the most "intelligent" animal. To make his point he presented a hypothetical experiment where a grape is placed under one of two boxes while a monkey looks on. A screen is then lowered for a period of time after which it is raised and the monkey can overturn the boxes. This experiment can be repeated with longer and longer time intervals until the monkey can no longer reliably select the box containing the grape.

Next he described a second experiment with a dog as the subject and steak substituted for the grape. If the experimenters find that the monkey is able to choose the correct box over a longer time period than the dog, what can be concluded?

> What would have happened if the dog had been deprived of food for three days? Or if twice as much meat had been placed in the box? Or if either or both of the animals had been older or younger? Or if the experiment had been conducted in semidarkness? Or if horsemeat and oranges had been substituted for steak and grapes? It is possible that factors such as these would have altered the results of the experiment, either increasing the apparent superiority of the monkey or giving the dog the advantage. There is no way out of this difficulty. If it were possible to arrange optimal conditions for both species, we could make a comparison of the optimal performances. But we do not have the knowledge at present to set up such an experiment. (p. 56)

The relevance of Sidman's argument to the present point should be readily apparent. Comparing the performance of different species and different treatments has similar pitfalls.

If instead of comparing treatment techniques, researchers carried out careful behavioral analysis of variables influencing the efficacy of treatment procedures or packages, practitioners would be in

a better position to use them in the most effective manner. For this reason, the identification and parametric analysis of critical variables should remain a major focus of applied behavior analysis. Nevertheless, it may be occasionally useful to compare several state-of-the-art treatment techniques. Whenever this is done, however, the conclusions should always be suitably qualified.

REFERENCE

Sidman, M. (1960). *Tactics of scientific research: Evaluating experimental data in psychology.* New York: Basic Books.

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